

Art Unit: \*\*\*

1. A method of controlling a display element within an array of display elements by utilizing row and column signals, comprising:
  - integrating a control circuit within a display element wherein said row and column lines are operably connected to said control circuit which connects to said display element;
  - maintaining a sufficient power on said row and column lines for continuously powering said control circuit and associated display element;
  - communicating an activation signal between said row and column lines to which said control circuit is connected;
  - activating said display element upon receipt of said activation signal by said control circuit; and
  - maintaining said display element activation by said control circuit from the power on said row and column lines for a predetermined duration after said activation signal is no longer being received.
2. A method as recited in claim 1, wherein said display element contains at least one light emitting diode.
3. A method as recited in claim 1, wherein said activation signal comprises a sufficient change in voltage across said row and column lines to be detected by said

control circuit.

4. A method as recited in claim 3, wherein said activation signal comprises transitions in the signal between said row and column which are identified by said control circuit as an activation signal.

5. A method as recited in claim 1, wherein said predetermined duration comprises a time period bounded by the receipt of a subsequent signal.

6. A method as recited in claim 5, wherein said subsequent signal comprises a signal associated with a subsequent scan of the display element for setting it to a new state.

7. A method as recited in claim 6, wherein said subsequent signal comprises a row signal transitioning from a first state to a second state.

8. A method as recited in claim 6, wherein said subsequent signal comprises a column signal transitioning from a first state to a second state.

9. A method as recited in claim 1, wherein said predetermined duration comprises a count value received from said row and column lines by said controller, that is modified toward a terminating count value.

Art Unit: \*\*\*

10. A method as recited in claim 1, wherein said predetermined duration comprises a predetermined time value as determined by control circuit configuration.

11. A method as recited in claim 1, wherein said predetermined duration comprises a duration value programmed in response to the signal relationships between said row and column lines.

12. A method as recited in claim 11, wherein said predetermined duration comprises the duration of the column signals while said row signals are active.

13. A method as recited in claim 11, wherein said predetermined duration comprises the duration of the row signals while said column signals are active.

14. A display element configured for being connected to a set of row and column addressing lines, comprising:  
a visual output element adapted for displaying at least two states within a display element;  
a control circuit within said display element which is adapted for connecting between a single row and a single column within the set of row and column addressing lines, and said visual output element;  
an activation signal detector within said control circuit, said activation signal

detector being adapted for detecting an activation signal on said row and said column lines; and

a visual output element driver within said control circuit, said visual output element driver being adapted for driving said visual output element from power received between the row and column lines;

said control circuit being adapted to activate said visual output element driver to supply power to said visual output element upon detection of an activation signal from said activation signal detector and to continue supplying said power for a predetermined duration after said activation signal is no longer present.

15. A display element as recited in claim 14, wherein said visual output element comprises at least one light emitting diode.

16. A display element as recited in claim 14, further comprising a reset signal detector within said control circuit; wherein upon detecting a reset signal on said row and said column lines said control circuit deactivates said visual output element driver to discontinue supplying power to said visual output element.

17. A display element as recited in claim 14, wherein said activation and reset signals are conveyed as changes in voltage potential between the row and column lines.

18. A system for displaying visual information on a multiplexed array of display elements interconnected on a grid of row and column address lines, comprising:

a row and column driver circuit adapted for activating selected display elements within said array in response to signals received from an image controller;

said row and column driver adapted for outputting a sufficient continuous power between said row and column and superimposing control signals thereupon for controlling said activating of said selecting display elements;

a display element adapted with a element control circuit interposed between the connection to said row and column lines and a visual output element;

said element control circuit adapted for activating said visual output element in response to controlling signals received over said row and column lines from said row and column driver circuit and maintaining the visual output element in an active state for a predetermined duration while other rows and columns of display elements are being activated during the multiplexing of the display.

19. A method of controlling a display element within an array of display elements by utilizing row and column signals separate from a power bus being applied to said display elements, comprising:

integrating a control circuit within a display element;

detecting the presence of an activation signal between said row and column lines by said control circuit; and

directing power from a power bus by said control circuit to said display element

Art Unit: \*\*\*

for a predetermined interval following said detected signal.

20. A method as recited in claim 19:

wherein said activation signal is detected as an electric field potential generated between said row and said column sufficiently proximal to said control circuit to be registered therein;

wherein said row and column signals are provided on a wiring grid retained in a substantially fixed position in relation to said display element.

Cancel Claims 21-68